

III. Remarks

Reconsideration and allowance of the subject application are respectfully requested.

Claims 1-45 and 47 are pending in the application.

Claims 1, 43, 44, and 45 are independent. Applicants gratefully acknowledge that Claims 1-18, 41-42, and 47 have been allowed.

While not conceding the new matter rejection of the specification amendment, the specification has been amended herein to moot this objection.

Claims 19, 23, 33, 36, and 39 were objected to for the reasons set forth at pages 3-4 of the Office Action. Applicants respectfully traverse all such objections. Claim 19 has been amended to moot its objection. With respect to Claims 23, 33, 36, and 39, Applicants respectfully traverse by pointing out that these claims do not have the same scope as their immediately preceding claims. Taking Claims 22 and 23, for example, Claim 22 recites that the first mixing element comprises a first leading edge and a first trailing edge. Thus, the second mixing element may not have such a "leading edge" and such a "trailing edge." Claim 23 covers the opposite situation from Claim 32. Likewise with respect to Claims 32 and 33, since Claim 32 recites that the first mixing element comprises a first apex portion, the second mixing element may not include such an "apex portion." Claim

33 covers the opposite scope. Similar logic applies to the remaining objected-to claims. Therefore, Applicants respectfully submit that the claims are of different scope.

Claims 44 and 46 were rejected under 35 USC § 112, first paragraph, for the reasons noted at pages 4-5 of the Office Action. Applicants respectfully traverse these rejections on the ground that the person of ordinary skill in the art would understand that the claims are properly supported by the specification and drawings. Nevertheless, Claim 44 has been amended for clarity with respect to the specification and Drawings, and not in response to any statutory requirement. Claim 46 has been cancelled for reasons unrelated to this rejection.

Claims 43-46 were rejected as being unpatentable over Cormack (misidentified as USP 6,015,299 in the Office Action - should be USP 6,015,229), and WO 99/13975, for the reasons detailed at pages 6-8 of the Office Action. Applicants respectfully traverse all art rejections. Note that Claim 46 has been cancelled for reasons unrelated to this rejection.

Independent Claim 43 recites a novel combination of structure and/or function whereby a fluid radiation treatment system has two mixing elements configured to mix a flow of fluid having a direction of fluid flow. Each mixing element has a surface having a first normal which is: (i) acutely

angled with respect to a first plane having a second normal substantially perpendicular to the direction of fluid flow; and (ii) acutely angled with respect to a second plane that is parallel to the direction of fluid flow, that passes through a center of at least one of the mixing elements (see, for example, Fig. 2), and that is orthogonal to the first plane. In contrast neither Cormack nor WO '975 discloses or suggests such a combination of features. In these documents, if one of the planes passes through a center of the mixing element, the normal will lie in that plane.

Independent Claim 44 recites a novel combination of structure and/or function whereby a fluid radiation treatment system has at least one mixing element for mixing a flow of fluid having a direction of fluid flow. The at least one mixing element includes a surface having a normal which is acutely angled with respect to each of two planes which are orthogonal to one another, each plane intersecting on a line substantially parallel to the direction of fluid flow, at least one of said two planes passing through a center of the at least one mixing element. The surface of the at least one mixing element has a triangular shape consisting essentially of a leading edge, a trailing edge, a base, and an apex at the intersection of the leading edge and the trailing edge. In contrast neither Cormack nor WO '975 discloses or suggests such a combination of features. In these documents, if one of

the planes passes through a center of the mixing element, the normal will lie in that plane.

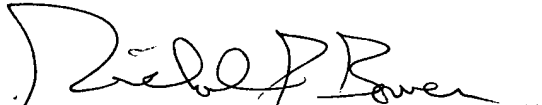
Independent Claim 45 recites a novel combination of structure and/or function whereby an ultraviolet radiation water treatment system has at least one mixing element for mixing a flow of water having a direction of fluid flow. The at least one mixing element has a surface having a normal which is acutely angled with respect to a first plane and a second plane which is orthogonal to the first plane. The first plane and the second plane intersect on a line substantially parallel to the direction of fluid flow. At least one of the first and second planes passes through a center of the at least one mixing element. In contrast neither Cormack nor WO '975 discloses or suggests such a combination of features. In these documents, if one of the planes passes through a center of the mixing element, the normal will lie in that plane.

Accordingly, the salient claimed features of the present invention are nowhere disclosed or suggested by the cited art.

In view of the above, it is believed that this application is now in condition for allowance, and a Notice thereof is respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 625-3507. All correspondence should continue to be directed to our address given below.

Respectfully submitted,


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